

## INITIAL STUDY

*The Department of Toxic Substances Control (DTSC) has completed the following Initial Study for this project in accordance with the California Environmental Quality Act (§ 21000 et seq., California Public Resources Code) and implementing Guidelines (§15000 et seq., Title 14, California Code of Regulations).*

### I. PROJECT INFORMATION

Project Name: Investigation Area B.2 Remedial Action Plan

Site Address: Former Mare Island Naval Shipyard

City: Vallejo State: CA Zip Code: 94592 County: Solano

Company Contact Person: Neal Siler

Address: 690 Walnut Avenue, Suite 100

City: Vallejo State: CA Zip Code: 94592 Phone Number: (707) 557-8223

#### Project Description:

Preparation and approval of the Remedial Action Plan (RAP) by DTSC is pursuant to the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986; the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) in Title 40 of the Code of Federal Regulations (CFR), Part 300; and Chapter 6.8, Division 20, California Health & Safety Code (H&SC). Remedial Action Plan will clean up contamination at an 83-acre portion of the former Mare Island Naval Shipyard. The area is referred to as Investigation Area B.2 (IA B.2) and is part of a larger parcel transferred from the Navy to Lennar Mare Island.

#### PCB Sites in IA B.2:

The PCB sites are handled under a separate removal action work plan and environmental impact analysis but included here for background information. Eleven PCB sites in IA B.2 (Building 459 AL#02 and AL#03, Building 523 AL#01, Building 527 AL#01, AL#02, and AL#03, Building 535 AL#01 and AL#02, and Building 637 AL#01, AL#02, and AL#03) require concrete, asphalt, wood, and/or soil removal due to elevated concentrations of PCBs. Concrete, asphalt, wood, and soil will be excavated from these sites and temporarily stockpiled and chemically analyzed to determine treatment requirements. Following excavation, verification samples will be collected and submitted for laboratory analysis for PCBs to ensure the effectiveness of the removal action. PCB-contaminated concrete, asphalt, wood, and soil will be transported off-site by truck to a permitted landfill for disposal. <sup>(3)</sup> Soil that is removed for disposal will be handled according to the *Soil and Groundwater Management Plan*, the *Interim Remedial Action Work Plan for Outdoor PCB Sites*, and the *Interim Remedial Action Work Plan for Indoor PCB Sites*. <sup>(1, 2)</sup>

Thirty-five of forty-four PCB sites will be included in a LUC that will restrict activities on the sites to those consistent with commercial and industrial land uses. In addition, one of these PCB sites requires an LUC with USEPA as a third party beneficiary. <sup>(3)</sup>

#### Fuel Oil Pipeline (FOPL) Segment G2/2.5/3ST:

The FOPL is being handled under the Regional Water Quality Control Board and not part of this environmental analysis, but include here for background information. A portion of FOPL segment G2/2.5/3ST that extends west of the utility vault to the former service island (southwest of Building 637) serves as a potential source of soil and/or groundwater contamination. Therefore, the portion of FOPL Segment G2/2.5/3ST still in place (approximately 300 feet) and surrounding soil will be removed in accordance with the Water Board Order.

#### Underground Storage Tank (UST) Sites in IA B.2:

Eight of fourteen UST sites in IA B.2 (565-1, 565-2, 565-3, 565-4, 565-5, 565-6, 839, and Cistern 77) will be included in a land use covenant (LUC) prohibiting unrestricted land uses, consistent with restricting the site to commercial and industrial uses.

Sites with Lead in Soil from Lead-Based Paint in IA B.2:

Due to elevated concentrations of lead detected above the residential/industrial risk-based levels, surface soil removal (0.5 to 1 foot bgs) is warranted for the following buildings at IA B.2. Buildings 459, 543, 545, 729, 749, 761 require surface soil removal to levels of lead consistent with commercial/industrial use and Buildings 657, 739, 775 require surface soil removal to levels of lead consistent with residential uses. Following soil excavation, verification soil samples will be collected and submitted for laboratory analysis for lead to ensure the effectiveness of the removal action. Excavated soil will be transported by truck to a permitted landfill for burial. Prior to loading for transport, the soil will be stockpiled and characterized to determine if treatment is required prior to disposal. <sup>(3)</sup> Soil that is removed for disposal will be handled according to the *Soil and Groundwater Management Plan*. <sup>(1)</sup>

Building 803 Area:

Building 803 is in an area planned for residential use, and the building is planned for deconstruction in accordance with the *Draft LMI Demolition List* <sup>(4)</sup>. Based on analytical data at Building 803 area, lead has been detected above the risk-based level for residential use. Consequently, surface soil in the small area of impacted soil (20 feet by 35 feet) will be removed at the time of building deconstruction. Following soil excavation, verification soil samples will be collected and submitted for laboratory analysis for pesticides, chromium, copper, TPH, and lead to ensure the effectiveness of the removal action. The excavation will subsequently be backfilled with imported, compacted, clean soil. Excavated soil will be transported by truck to a permitted landfill for burial. Prior to loading for transport, the soil will be stockpiled and characterized to determine if treatment is required prior to disposal. <sup>(3)</sup> Soil that is removed for disposal will be handled according to the *Soil and Groundwater Management Plan*. <sup>(1)</sup>

Building 811 Area:

Additional evaluation and remedial action to remove petroleum contamination is required at the Building 811 Area. A work plan will be prepared to describe an interim remedial action that will be performed at the site where response and/or corrective actions are necessary to obtain regulatory closure in accordance with the RWQCB Order. <sup>(3)</sup>

IR01-Developed Area, IR18, Building 213, IR16-B4/Building 455 Area, IR14 (located in commercial/industrial areas in IA B.2), DOM-4, DOM-W, Former Wood Treating Area:

Previously removal actions have been completed for these areas under separate work plans. The final remedy for the sites shown above includes the recordation of an LUC prohibiting unrestricted land uses, consistent with restricting the site to commercial and industrial uses in accordance with the Draft Remedial Action Plan. <sup>(3)</sup>

Project Activities:

- Excavation and stockpiling of contaminated soil, wood, concrete, and asphalt using appropriate construction equipment (may include excavator, backhoe, bulldozer, or grader); loading the contaminated media onto dump trucks.
- Characterization of stockpiled soil, wood, concrete, and asphalt to determine if treatment is required prior to disposal.
- Off-site transport and disposal of excavated soil, wood, concrete, and asphalt to appropriate facility based on waste characterization and importation of clean backfill material.
- Collection of verification samples from excavation bottoms and sidewalls.
- Site restoration including backfill of all excavated areas.
- Removal of approximately 300 feet of fuel-oil pipeline

Other activities include:

- Traffic controls and institutional controls (i.e. fences, caution marking).

References:

1. CH2M HILL. 2001. *Final Soil and Groundwater Management Plan, Mare Island*, November.
2. CH2M HILL. 2005. *Interim Removal Action Work Plan for Outdoor PCB Sites in the Eastern Early Transfer Parcel*. February 3.
3. CH2M HILL. 2005. *Draft Remedial Action Plan for Investigation Area B.2, Mare Island, Vallejo, California. Prepared for Regulatory Agencies*. May.
4. CH2M HILL. 2006. *Interim Removal Action Work Plan for Indoor PCB Sites in the Eastern Early Transfer Parcel*. Draft for Public Review. July.
5. Mellon and Associates. 2000. *Mare Island – Draft List of Buildings to be Demolished*. November 6.

**II. DISCRETIONARY APPROVAL ACTION BEING CONSIDERED BY DTSC**

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Initial Permit Issuance | <input type="checkbox"/> Closure Plan                    | <input type="checkbox"/> Removal Action Workplan |
| <input type="checkbox"/> Permit Renewal          | <input type="checkbox"/> Regulations                     | <input type="checkbox"/> Interim Removal         |
| <input type="checkbox"/> Permit Modification     | <input checked="" type="checkbox"/> Remedial Action Plan | <input type="checkbox"/> Other (Specify)         |

Program/ Region Approving Project: Department of Toxic Substances Control - Office of Military Facilities

DTSC Contact Person: Henry Chui

Address: 700 Heinz Avenue, Suite 200

City: Berkeley State: CA Zip Code: 94710 Phone Number: (510) 540-3759

**III. ENVIRONMENTAL RESOURCES POTENTIALLY AFFECTED**

The boxes checked below identify environmental resources in the following ENVIRONMENTAL SETTING/IMPACT ANALYSIS section found to be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact."

- |   |  |  |
|---|--|--|
| <input checked="" type="checkbox"/> None Identified | <input type="checkbox"/> Aesthetics                      | <input type="checkbox"/> Agricultural Resources      |
| <input type="checkbox"/> Air Quality                | <input type="checkbox"/> Biological Resources            | <input type="checkbox"/> Cultural Resources          |
| <input type="checkbox"/> Geology And Soils          | <input type="checkbox"/> Hazards and Hazardous Materials | <input type="checkbox"/> Hydrology and Water Quality |
| <input type="checkbox"/> Land Use and Planning      | <input type="checkbox"/> Mineral Resources               | <input type="checkbox"/> Noise                       |
| <input type="checkbox"/> Population and Housing     | <input type="checkbox"/> Public Services                 | <input type="checkbox"/> Recreation                  |
| <input type="checkbox"/> Transportation and Traffic | <input type="checkbox"/> Utilities and Service Systems   |  |

**IV. ENVIRONMENTAL IMPACT ANALYSIS**

The following pages provide a brief description of the physical environmental resources that exist within the area affected by the proposed project and an analysis of whether or not those resources will be potentially impacted by the proposed project. Preparation of this section follows guidance provided in DTSC's California Environmental Quality Act Initial Study Workbook [Workbook]. A list of references used to support the following discussion and analysis are contained in Attachment A and are referenced within each section below.

Mitigation measures which are made a part of the project (e.g.: permit condition) or which are required under a separate Mitigation Measure Monitoring or Reporting Plan which either avoid or reduce impacts to a level of insignificance are identified in the analysis within each section.

**1. Aesthetics**

*Project activities likely to create an impact:*

- Excavation and stockpiling of contaminated soil, wood, concrete, and asphalt using appropriate construction equipment (may include excavator, backhoe, bulldozer, or grader); loading the contaminated media onto dump trucks.
- Characterization of stockpiled soil, wood, concrete, and asphalt.

- Off-site transport and disposal of excavated soil, wood, concrete, and asphalt to appropriate facility based on waste characterization and importation of clean backfill.
- Site restoration including backfill of all excavated areas.
- Removal of approximately 300 feet of fuel-oil pipeline.

*Description of Environmental Setting:*

IA B is located in the north-central portion of the Eastern Early Transfer Parcel (EETP) of the former Mare Island Naval Shipyard. The entire IA B area is approximately 90-acres bounded to the north by G Street, to the east by Railroad Avenue, and to the south by Connolly Street. Based on the fill history and proposed remedies for various portions of IA B, the area was sub-divided into IA B.2 and IA B.1. IA B.2 is the majority of IA B and consists of 83 acres of IA B east of Azuar Drive. Light industrial areas exist to the north, east, and south of IA B.2. Land west of IA B.2 includes non-tidal wetlands, IA B.1 (the Crane Test Area) and the former Defense Reutilization and Marketing Office (DRMO) scrapyard area. Part of the Shipyard/Residential Historic District is located within the boundary of IA B.2. However, IA B.2 is located outside the historic core area, which is based on the density of historic buildings. <sup>(2)</sup> A large portion of IA B.2 does not fall within the original (1859) Mare Island boundary but consists of fill material. Land surrounding the structures in the majority of IA B.2 is paved throughout; however, landscaping surrounds several of the buildings in the northern portion of IA B.2.

*Analysis of Potential Impacts:*

Describe to what extent project activities would:

a. Have a substantial adverse effect on a scenic vista.

Trucks, trailers, portable tanks, and construction equipment will be present during the remedial activities in IA B.2. In addition, soil, wood, concrete, and asphalt will be temporarily stockpiled at the site. Remedial activities in IA B.2 are expected to be performed over short durations (one to two weeks) and are not expected to have a long-term adverse effect on a scenic vista.

b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings and historic buildings within a state scenic highway.

The project site is not within the corridor of a designated state scenic highway. Project activities will be conducted such that no damage to scenic resources occurs.

c. Substantially degrade the existing visual character or quality of the site and its surroundings.

The project would involve removing contaminated soil, wood, concrete, and asphalt from areas in IA B.2. Site restoration will be performed upon completion of removal activities. Therefore, no degradation of the existing visual character or quality of the site will occur.

d. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

Project activities will be implemented during daylight hours and do not involve the use of lighting.

*References:*

- CH2M HILL. 2005. *Draft Remedial Action Plan for Investigation Area B.2, Mare Island, Vallejo, California. Prepared for Regulatory Agencies.* May.
- United States Department of the Navy (Navy) and City of Vallejo. 1998. *Mare Island Naval Shipyard Disposal and Reuse Final Environmental Impact Statement/Environmental Impact Report.* SCH#94093029. April.

*Findings of Significance:*

- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ☐ Less Than Significant Impact
- ☒ No Impact

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**2. Agricultural Resources**

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*Project activities likely to create an impact:* None

*Description of Environmental Setting:*

Past land use in IA B.2 has been used for transportation equipment repair, public works maintenance, warehouse facilities, military barracks and training facilities, and a variety of community service and recreational facilities. The proposed redevelopment plan for IA B.2 involves mixed uses, including light industrial/commercial areas and residential areas.<sup>(1, 2)</sup> These proposed land uses are similar to past land uses in IA B.2, which included commercial/industrial use, residential use, and parks (i.e., Morton Field).<sup>(3)</sup> No zoning or land use changes are being proposed as a result of project implementation. For these reasons, no impacts to agricultural resources are expected. Therefore, no further analysis of impacts is deemed necessary.

Analysis of Potential Impacts. Describe to what extent project activities would:

- a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.
- None. Please see explanation above.
- b. Conflict with existing zoning or agriculture use, or Williamson Act contract.
- None. Please see explanation above.
- c. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural uses.
- None. Please see explanation above.

*References:*

1. Supervisor of Shipbuilding, Conversion, and Repair, Portsmouth, Virginia, Environmental Detachment (SSPORTS). 1996a *Basewide Environmental Baseline Survey, Former Mare Island Naval Shipyard, Supplement for Zone 02*. August 8.
2. SSPORTS. 1996b. *Basewide Environmental Baseline Survey, Former Mare Island Naval Shipyard, Supplement for Zone 03*. May 31.
3. SWA Group. 2000. *Preliminary Land Use Plan*. May 23.

*Findings of Significance:*

- ☐ Potentially Significant Impact
- ☐ Potentially Significant Unless Mitigated
- ☐ Less Than Significant Impact
- ☒ No Impact

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**3. Air Quality**

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*Project activities likely to create an impact:*

- Excavation and stockpiling of contaminated soil, wood, concrete, and asphalt using appropriate construction equipment (may include excavator, backhoe, bulldozer, or grader); loading the contaminated media onto dump trucks.
- Off-site transport and disposal of excavated soil, wood, concrete, and asphalt to appropriate facility based on waste characterization and importation of clean backfill.
- Site restoration including backfill of all excavated areas.

*Description of Environmental Setting:*

The proposed project is located within jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The BAAQMD is responsible for enforcing, within its jurisdiction, air quality standards established by the California Air Resources Board (CARB) and the federal Environmental Protection Agency (EPA). These air quality standards contain averaging times and threshold concentration levels for certain criteria pollutants that cannot be exceeded by proposed projects. (See Attachment B) <sup>(1)</sup>

The BAAQMD falls within the San Francisco Bay Area Air Basin (SFBAAB). The SFBAAB has been designated by the CARB as being in non-attainment with California Ambient Air Quality Standards (CAAQS) for ozone and for particulate matter less than 10 microns (PM<sub>10</sub>). The federal EPA has designated the SFBAAB as being in non-attainment with Federal Ambient Air Quality Standards (FAAQS) for ozone. <sup>(1)</sup>

Since ozone and PM<sub>10</sub> have been identified as non-attainment in the SFBAAB, specific standards were developed by the BAAQMD to control sources of these pollutants from proposed future projects. Further, because ozone is an identified non-attainment pollutant, standards are also required for ozone precursors such as nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOCs). The BAAQMD established such standards for projects proposed within its jurisdiction. Regulation 6 of the BAAQMD regulations limits particulate matter by emission rate, while Regulation 8 limits the emissions of organic pollutants (CO and VOCs). In addition, odorous substances are regulated by the BAAQMD under Regulation 7. <sup>(1)</sup>

Analysis of Potential Impacts. Describe to what extent project activities would:

a. Conflict with or obstruct implementation of the applicable air quality plan.

The BAAQMD regulations specify standards for fugitive dust emissions and particulate matter emissions. The BAAQMD exempts certain operations, under Regulation 2, from obtaining air permits.

Dust monitoring will be performed during activities that might create dust, such as excavation, stockpiling or loading of soil. It might be necessary to perform additional monitoring if wind speeds are high enough to generate dust from soil stockpiles, although this is not anticipated to be a problem because wind direction and speed have been referenced as “typically 5 to 10 knots to the south or west”. <sup>(2)</sup> Real-time particulate dust monitors (Miniram PDM-3 or equivalent) will be placed in two locations at a site, upwind and downwind, but may vary according to actual conditions. The goal of this project is to have readings of less than 2 milligrams per cubic meter (mg/m<sup>3</sup>), allowing Level D PPE. If dust levels cannot be controlled to below 2 mg/m<sup>3</sup>, the work will cease until additional controls are implemented to reduce dust generation from the work area. If dust levels become greater than 2 mg/m<sup>3</sup>, Level C PPE will be required until the goal of less than 2 mg/m<sup>3</sup> is reached. Dust monitors will be equipped with data loggers, or designated site personnel will be responsible for logging the data on an hourly basis.

A water truck or fire hydrant with sufficient hose will be available at all times during excavation, soil handling, and loading activities. A specific individual will provide dust suppression to all generating sources as necessary. Plastic sheets will also be used as necessary to cover stockpiled soil. <sup>(1, 3)</sup>

b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

As stated in Part a (above) the project activities are under the regulatory authority of the BAAQMD and compliance with their standards related to NO<sub>x</sub>, CO, VOCs, and particulate matter will not create a violation.

Due to the difficulty associated with excavating around the buildings, the direct load of excavated soil is not feasible; therefore, all excavated soil will be stockpiled. The transport of the excavated soil, concrete, and asphalt at each site will likely occur following the completion of each the removal action. Dust monitoring will be performed during activities that might create dust, such as excavation, stockpiling, or loading.

c. Result in cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

As described in the answers above, project activities will not create a violation of emissions standards and emissions will be temporary and short-term in nature. Therefore, there will be no net increase of any criteria pollutant or ozone precursor during project activities.

Emissions of construction activities including emissions of ozone precursors are part of the emission inventory that is the basis for the regional air quality plans. Thus, emissions from the project will not result in a net increase or impede the attainment or maintenance of ozone and NO<sub>x</sub> standards in the Bay Area.

Particulate matter control measures recommended by BAAQMD will ensure that PM<sub>10</sub> emissions will not result in a significant increase.

d. Expose sensitive receptors to substantial pollutant concentrations.

The BAAQMD defines *sensitive receptors* as the elderly, children, infirm, or persons with particular sensitivity to air pollutants. Agricultural crops, especially broad-leaved produce crops and cultivated flowers, are also sensitive to air pollutants. The sensitive receptors in the Project vicinity are the recreational users of the golf course, boat traffic in Carquinez Strait, San Pablo Bay, and Mare Island Strait, occupants of the housing, commercial, and academic facilities on Mare Island, the City of Vallejo, and the San Francisco Bay area, and an elementary school located approximately 0.3 mile from IA B.2. <sup>(1, 3)</sup>

The project is not expected to expose these sensitive receptors to substantial pollutant concentrations for the following reasons:

1. The projects are taking place in developed areas that are not very close to any sensitive receptors.
2. Only a small number of construction vehicles or equipment will be operating at any time.
3. The projects are not expected to last more than one to two weeks each.
4. Standard construction practices, such as utilizing a water truck and covering of soil stockpiles, will be used for dust suppression.

e. Create objectionable odors affecting a substantial number of people.

Odoriferous substances are regulated by the BAAQMD under Regulation 7. Controls to meet these requirements will be made part of the project. However, in general the air quality impact of odor from construction activities is difficult to assess, as the identification and degree of its objectionable nature is very subjective and varies from individual to individual. IA B.2 is an open area where odors will be able to quickly dissipate. <sup>(1)</sup>

f. Result in human exposure to Naturally Occurring Asbestos (see also Geology and Soils, f.).

No ultramafic rocks likely to contain naturally occurring asbestos are illustrated on the ARB map entitled, "General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos". Site soils consist of fine-grained sediments including dredged material and Bay Mud Outcrops; the area of the site has been mapped as sandstone, mudstone, shale, and conglomerates. Ultramafic exposures likely to contain naturally occurring asbestos were not identified in the area of the site. The project site has already been developed and only approximately two feet of contaminated topsoil is proposed to be removed for this project. For these reasons, the likelihood of exposure of site workers or the surrounding community to Naturally Occurring Asbestos is not considered to be a potential hazard. <sup>(4)</sup>

*References:*

1. <http://www.baaqmd.gov>
2. CH2M HILL. 2004. *Final Investigation Area B Remedial Investigation Report*. May 20.
3. CH2M HILL. 2005. *Draft Remedial Action Plan for Investigation Area B.2, Mare Island, Vallejo, California. Prepared for Regulatory Agencies*. May.
4. California Air Resources Board Website: [www.arb.ca.gov/toxics/asbestos/geninfo.htm](http://www.arb.ca.gov/toxics/asbestos/geninfo.htm)

*Findings of Significance:*

- ☐ Potentially Significant Impact  
☐ Potentially Significant Unless Mitigated

- ☐ Less Than Significant Impact  
☒ No Impact

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#### 4. Biological Resources

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*Project activities likely to create an impact:*

- Excavation and stockpiling of contaminated soil, wood, concrete, and asphalt using appropriate construction equipment (may include excavator, backhoe, bulldozer, or grader); loading the contaminated media onto dump trucks.
- Characterization of stockpiled soil, wood, concrete, and asphalt.
- Off-site transport and disposal of excavated soil, wood, concrete, and asphalt to appropriate facility based on waste characterization and importation of clean backfill.
- Site restoration including backfill of all excavated areas.
- Removal of approximately 300 feet of fuel-oil pipeline.

*Description of Environmental Setting:*

The major habitat types found at or around Mare Island include intertidal mudflats and open water, tidal wetlands, non-tidal wetlands, active dredge ponds, and uplands. <sup>(1)</sup> Ecological habitats important to IA B.2 include the non-tidal wetlands to the west of the site and upland habitat. Non-tidal wetlands are located between the developed areas of Mare Island and the active dredge ponds and tidal wetlands on the western side of the island (i.e., outside the EETP). These areas are former tidal wetlands that have been altered by the construction of levees and berms. These diked wetlands occupy areas that were traditionally a transition zone between tidal wetlands and uplands.

##### Non-tidal wetlands

The non-tidal wetland habitat contains vegetation found in both brackish and freshwater environments, including pickleweed, cattails, and sedges <sup>(1)</sup>. The wetlands are seasonal and only become inundated during the winter when they fill with rainwater. Wetland A, located north of Dump Road and west of Azuar Drive, is mostly pickleweed habitat with some areas of sedges and cattails. Amphibians and reptiles that may occur in diked wetlands include the western toad, Pacific treefrog, red-legged frog, bullfrog, northern leopard frog, and western pond turtle. Reptiles, though more common in drier uplands, may also include the gopher snake, the coast garter snake, and the western skink. Migratory shorebirds and resident water birds, including canvasbacks, mallards, marbled godwits, avocets, and long-billed curlews, may use non-tidal wetlands. Mammals, including the endangered salt-marsh harvest mouse and the Suisun shrew, are present in non-tidal wetlands.

##### Upland Habitat

Uplands are well-drained areas above the effects of tidal action or flooding of wetlands. Uplands at Mare Island consist of grasslands and shrublands encompassing approximately 323 acres. On Mare Island, these areas are mostly highly disturbed grasslands along the boundary of non-tidal wetland areas and active dredge ponds with little native vegetation remaining. Most of the landscaped areas of Mare Island do not provide substantial habitat.

The upland habitat in the undeveloped portion of IA B.1 may provide viable on-site habitats for some species; however, the developed portion of IA B.2 does not contain viable habitat because these areas are covered by buildings, asphalt, and concrete. In addition, for buried areas such as IR14 pipeline, there are no ecological receptors and, consequently, complete exposure pathways do not exist. <sup>(2, 3)</sup>

##### Species of Special Concern

Several species of plants and animals listed as threatened or endangered by the state or federal government reside on or near Mare Island. Endangered birds, including the black rail and the California clapper rail, feed in tidal marshes and mudflats, and clapper rails are known to nest in the remote reaches of the west marsh. <sup>(4)</sup> Federal- and state-listed raptors, such as the peregrine falcon, have been sighted near Mare Island. The terrestrial San Pablo song sparrow, loggerhead shrike, and common yellowthroat nest on the island and feed on seeds and insects; the shrike also feeds on small mammals and reptiles.



Of particular concern is the presence of the salt marsh harvest mouse—an endangered species endemic to the marshes of San Francisco Bay. The mouse was listed as an endangered species by the United States Department of the Interior in 1970 and by the California Department of Fish and Game in 1971.<sup>(5)</sup> Two subspecies are recognized. The northernmost subspecies is found in the marshes of San Pablo and Suisun Bays and along the northern Contra Costa County coast. Mare Island supports one of the largest documented northern subspecies populations of salt marsh harvest mice in the San Francisco Bay Area.<sup>(6)</sup> However, salt marsh harvest mouse habitat is not present in IA B.2.

An ecological risk assessment for IA B.2 is presented in the *Final Investigation Area B Remedial Investigation Report*.<sup>(4)</sup>

*Analysis of Potential Impacts:*

Describe to what extent project activities would:

- a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

IA B.2 is located in a non-sensitive area. In addition, project activities will be limited to project areas. Care will be taken so that excavation activities do not affect the upland habitat or non-tidal wetland areas adjacent to the project site. Therefore, the project will not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species.<sup>(2, 3)</sup>

- b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

No riparian habitat or other sensitive natural communities are present within the project boundaries. Care will be taken so that excavation activities do not affect the upland habitat or non-tidal wetland areas adjacent to the project site.<sup>(1, 2)</sup>

- c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

Direct removal, filling, or other interruptions to the non-tidal wetlands are not anticipated with associated project activities. Excavation activities will not be occurring within 350 feet of the non-tidal wetland areas. Care will be taken so that excavation activities do not affect the non-tidal wetland areas adjacent to the project site.<sup>(2)</sup>

- d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

No fish or wildlife species are known to reside or migrate within the project boundaries. No areas within the project boundaries are known to contain any migratory wildlife corridors.<sup>(3, 7)</sup>

- e. Conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

The Memorandum of Understanding (MOU) was prepared to promote the conservation of the salt marsh harvest mouse within the confines of the MINS.<sup>(6)</sup> The proposed project activities will not conflict with the MOU.

- f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Project activities will not conflict with the provisions outlined in the Salt Marsh Harvest Mouse and California Clapper Rail Recovery Plan and will not be conducted in sensitive habitats.

References:

1. TTEMI. 2002. Final Onshore Ecological Risk Assessment, Mare Island, Vallejo, California. July.

2. CH2M HILL. 2005. *Draft Remedial Action Plan for Investigation Area B.2, Mare Island, Vallejo, California. Prepared for Regulatory Agencies*. May.
3. CH2M HILL. 2004. Final Investigation Area B Remedial Investigation Report. May 20.
4. PRC. 1996. Final Phase I ERA Work Plan for MINS, Vallejo, California. March 7.
5. Shellhammer H. 1982. *Reithrodontomys raviventris*. Mammal. Spec. Number 169. Pages 1-3.
6. United States Fish and Wildlife Service (USFWS). 1988. Memorandum of Understanding between the USFWS and the Navy, MINS: Regarding the Salt Marsh Harvest Mouse. July.
7. USFWS. 1984. *Salt Marsh Harvest Mouse and California Clapper Rail Recovery Plan*. November 16.
8. Department of Fish & Game website [www.dfg.ca.gov](http://www.dfg.ca.gov).

*Findings of Significance:*

- ☐ Potentially Significant Impact  
☐ Potentially Significant Unless Mitigated  
☐ Less Than Significant Impact  
☒ No Impact

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**5. Cultural Resources**

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*Project activities likely to create an impact:*

- Excavation and stockpiling of contaminated soil, wood, concrete, and asphalt using appropriate construction equipment (may include excavator, backhoe, bulldozer, or grader);
- Off-site transport and disposal of excavated soil, wood, concrete, and asphalt to appropriate facility based on waste characterization and importation of clean backfill.
- Site restoration including backfill of all excavated areas.
- Removal of approximately 300 feet of fuel-oil pipeline.

*Description of Environmental Setting:*

Mare Island is both a National Historic Landmark and a National Register Historic District. <sup>(1)</sup> IA B.2 is part of the Shipyard/Residential Historic District, but is located outside LMI's historic core area for redevelopment. The earliest buildings in IA B.2 date from 1902; however, the majority of the buildings and structures in IA B.2 were built in the 1930s, 1940s, and 1950s. The buildings were used for transportation equipment repair, crane maintenance and testing, public works maintenance, warehouse facilities, military barracks and training facilities, and a variety of community service and recreational facilities. <sup>(2, 3)</sup> Approximately 35 individual buildings/structures have been deconstructed or relocated, primarily during the late 1940s.

The State of California recognized the historic importance of Mare Island in 1960 by officially declaring it a California Historic Landmark. It was later declared a National Landmark in 1975 by the Secretary of the Interior under the Historic Sites Act of 1935. The Caldwell consulting firm conducted a historic analysis of Mare Island and identified five distinct districts of historical importance:

- Shipyard Historic District. This area contains 19th century buildings and engineering construction.
- Shipyard Support District. This area contains a number of large Classic Revival houses, Alden Park, and the significant shingle style of St. Peter's Chapel.
- Naval Ammunition Depot. This district is known as the magazine grounds and Concord Weapons Station Annex. It contains the oldest magazine (1857), the oldest home (1858), cemetery (1856) and Civil War era defensive earthworks.
- Hospital District. It contains the hospital built in 1899, two houses which served as housing for medical officers, a small park, and significant plantings along Azuar Avenue.
- U.S. Marine Barracks. This area encompasses the historic Marine Compound and Officers Quarters (1888) and the newer Marine Barracks completed in 1917.

- Significant Buildings Not in Historical Districts. The Marine Officers Quarter, Building M-1 (1870); the Marine Prison, Building 84 (1890), second stable, and Building 88 (1862).

A larger area (Mare Island Historic District) has been listed in the National Register of Historic Places (NRHP). The historic district defines an area that reflects use of the island by the Navy between its founding in 1854 and the end of WWII in 1945. The Mare Island Historic District includes an area of about 980 acres. The boundaries for the historic district encompass the vast majority of buildings, structures, and sites that potentially contribute to the area of significance (military history, industrial history, architecture and engineering, and historic archaeology) and to the period of significance (1845 to 1945). The Mare Island Historic District includes 661 buildings and structures, 502 of which are contributing elements, and 12 historic landscape areas. In addition, it includes one historic archaeological site, comprising a minimum of 28 discrete features, all of which contribute to the significance of the district. The Mare Island Historic District includes all elements of the NHLs, including the 49 buildings and structures included as NHL properties.<sup>(4)</sup> The developed portion of IA B.2 is within the designated historic district, and several buildings are designated for historic preservation including the former Post Office (Building 749) and the historic theater complex (Rodman Center, Building 545).

## ARCHAEOLOGICAL RESOURCES

In 1986, the Archaeological Resource Service conducted both prehistoric and historic archaeological inventories of Mare Island. The following areas were identified:

## NATIVE AMERICAN RESOURCES

Ethnographic evidence exists to suggest that over the last 2,000 years, four distinct Native American populations inhabited or used the area. These include the Wappo, the Coast Miwok, the southern Patwin and the Ohionean. The 1986 Archaeological Resources Survey of Mare Island identified evidence of prehistoric occupation but did not identify any sites that might have traditional cultural significance to surviving Native Americans. The Navy is currently attempting to locate all archaeological collections that may have been made on Mare Island since 1854.

## PREHISTORIC ARCHAEOLOGICAL SITES

- General areas of prehistoric sites on Mare Island are listed below:
- Vicinity of Building A23 and A43 (Old Magazine Area). This area contains three separate deposits which appear to be remnants of village sites. Materials recovered from this area during the site survey include fragments of shellfish remains, pieces of obsidian, flakes of chert, a pestle, and a mano.
- Vicinity of Building A150 and A151. This site, first recorded in 1907, consists of the remains of a prehistoric shellfish harvesting site.
- Vicinity of Building 986. This area contains a midden deposit containing mussel shells, burned rocks and chert tools.
- Vicinity of Azuar-Suisun Avenue. Several isolated patches of shell midden were observed in the vicinity of Building 866. Its location would have provided optimum access to Mare Island Strait and San Pablo Bay as well as the hills to the north and south. Because of its central location, the site is a candidate for early occupation and may be the oldest site of the island.
- Vicinity of Industrial Yard and Walnut Avenue. Several areas of prehistoric deposits were identified. Indicators suggest that at least one and possibly three separate prehistoric sites may be intact beneath the landscaped surface.
- North Base Area. Test borings from 1928 indicate that a significant prehistoric site may exist beneath dredge spoil deposits in the general vicinity of Mariner Park.

## HISTORIC ARCHAEOLOGICAL SITES

A total of 55 historic era archaeological features have been examined, some of which are listed below:

- **Native American Grave Site.** The grave of a native American, noted in historic records as being buried on the land in 1794.
- **United States Dry Dock Company.** Remains of the United States Dry Dock Company Yard, established two years prior to the U.S. Navy Yard, presumably present under Building 46.
- **First Marine Railway.** Intact remains of the first major marine railway built on the Pacific coast, including the engine house, preserved under paving and fill soils between Building 122 and the Mare Island Strait, in the vicinity of Dry Dock No. 2.
- **First Submarine Dock.** Artifacts associated with the first submarine dock could provide information about early experimental craft which were present at the shipyard around 1904.
- **Marine Barracks Area.** Dozens of buildings, long since demolished, originally occupied the Marine Barracks area. Associated artifacts could provide the most complete record of the oldest U.S. Marine compound on the Pacific Coast.
- **Civil War Earthworks.** The Civil War defensive earthworks were located at the southeastern tip of Mare Island. These temporary batteries were the last exposed defenses of the San Francisco Bay.
- **Torpedo Boat Wharf.** Deposits associated with the torpedo boat wharf could provide information on the evolution of modern ship building.
- **Original Ordnance Building.** Deposits associated with the original ordnance building may shed light on the evolution of fire arms and ammunition.

Mare Island has been identified as a single historic archaeological site composed of numerous features. Twenty-eight historic features are recognized at Mare Island as contributing elements to the Mare Island NRHP District. The civilian housing areas (Building 535, 475, 803, and 639) are located in IA B.2 and are considered contributing elements of the NRHP District. <sup>(4)</sup> source: archaeological site map

#### *Analysis of Potential Impacts.*

##### Describe to what extent project activities would:

a. Cause a substantial adverse change in the significance of a historical resource as defined in 15064.5.  
Project activities must conform to requirements of Architectural Heritage and Historic Preservation Ordinance (Chapter 16.38 of the Vallejo Municipal Code). The Vallejo Municipal Code requires modification to historic buildings be made in conformance with the Secretary of the Interior's standards for rehabilitation and guidelines for rehabilitating historic buildings. Chapter 16.38 requires issuance of a certificate of appropriateness for alteration of a contributing resource in a manner that affects the exterior architectural appearance of a building or structure. A certificate of appropriateness is also required for construction or alteration within the project site of a contributing resource or site features including, but not limited to, landscaping, fencing, walls, paving, and grading.

As part of the development activities on Mare Island, the *Mare Island Specific Plan* (adopted in December 2005) includes deconstruction of Building 803. The proposed soil excavation activities at Building 803 (to be performed beneath the Building 803 floor surface) will occur after the building has been deconstructed. In addition, soil surrounding buildings located in designated historic areas (Buildings 535, 545, 749) will be excavated during project activities. Excavation in these areas will be closely monitored to identify objects that may be historically or archaeologically significant to ensure historic character of a property will be retained and preserved <sup>(5)</sup>.

Other project activities in IA B.2 will not result in the deconstruction of structures identified to be historically significant. If an eligible structure is encountered during project activities in IA B.2, procedures for protection of historic properties set forth in Executive Order 11,593 entitled "Protection and Enhancement of the Cultural Environment" and in 36 CFR Part 800, 36 CFR Part 63, and 40 CFR Part 6.301(c) are potentially applicable.

b. Cause a substantial adverse change in the significance of an archeological resource pursuant to 15064.5.

Soil in buildings designated as an archaeological area (Building 535, 803) will be excavated during project activities. Excavation in this area will be closely monitored to identify objects that may be historically or archaeologically significant to ensure archeological resources will be protected and preserved in place. Project activities will follow the procedures specified in The Archaeological and Historic Preservation Act, 16 U.S.C. §469, and the Archaeological Resources Protection Act 16 U.S.C. §470 to preserve and protect archaeological resources <sup>(5)</sup>.

c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Project activities are not located within areas known to contain paleontological resources or unique geologic features. If such resources or features are identified during project activities, work in the immediate vicinity will stop until such time as an evaluation by a qualified person (i.e. an archaeologist) can be made.

d. Disturb any human remains, including those interred outside of formal cemeteries.

All work activities associated with this project are located outside areas where human remains have been previously identified. In the event that historical or archaeological resources, artifacts and/or human remains are encountered during the execution of the proposed project, work in the immediate vicinity will stop until such time as an evaluation by a qualified person (i.e. an archaeologist) can be made.

*References:*

1. United States Department of the Navy and City of Vallejo. 1998. *Mare Island Naval Shipyard Disposal and Reuse Final Environmental Impact Statement/Environmental Impact Report* SCH#94093029. April.
2. Supervisor of Shipbuilding, Conversion, and Repair, Portsmouth, Virginia, Environmental Detachment (SSPORTS). 1996. *Basewide Environmental Baseline Survey, Former Mare Island Naval Shipyard. Supplement for Zone 02.* August 08.
3. SSPTS. 1996. *Basewide Environmental Baseline Survey, Former Mare Island Naval Shipyard, Supplement for Zone 03.* May 31.
4. Naval Facilities Engineering Command, Western Division and the City of Vallejo (WESTDIV and City of Vallejo). 1998. *Mare Island Naval Shipyard Disposal and Reuse Final Environmental Impact Statement/Environmental Impact Report.* April.
5. CH2M HILL. 2005. *Draft Remedial Action Plan for Investigation Area B.2, Mare Island, Vallejo, California. Prepared for Regulatory Agencies.* May.
6. PRC. 1996. *Draft. Remedial Investigation Report for Operable Unit 3.* December 24.
7. Johnson, Patti J. 1978. *Patwin, Handbook of North Americans, Vol. 8: California.* Robert F. Heizer Ed. Smithsonian Institution, Washington.
8. U.S. Navy, 1994. *Basewide Environmental Baseline Survey/Community Environmental Response Facilitation Act*

*Findings of Significance:*

- ☐ Potentially Significant Impact  
☐ Potentially Significant Unless Mitigated  
☒ Less Than Significant Impact  
☐ No Impact

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**6. Geology and Soils**

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*Project activities likely to create an impact:*

- Excavation and stockpiling of contaminated soil, wood, concrete, and asphalt using appropriate construction equipment (may include excavator, backhoe, bulldozer, or grader); loading the contaminated media onto dump trucks.
- Off-site transport and disposal of excavated soil, wood, concrete, and asphalt to appropriate facility based on waste characterization and importation of clean backfill material.
- Site restoration including backfill of all excavated areas.
- Removal of approximately 300 feet of fuel-oil pipeline

#### *Description of Environmental Setting:*

The geology of Mare Island can be characterized as an eroded bedrock surface that is exposed in the southern part of the peninsula, overlain by a blanket of unconsolidated Quaternary sediments and fill material at most other locations. The bedrock surface is irregular and deeply incised in some areas, and up to 160 feet of unconsolidated materials overlie the bedrock at some locations on the peninsula. The eroded bedrock forms a subsurface ridge, which appears to coincide with the original extent of Mare Island in 1859, and extends northwest along the axis of the Mare Island peninsula. Three principal geologic units have been identified at Mare Island, and all three are found within IA B.2. From top to bottom stratigraphically, these include (1) fill materials, (2) unconsolidated natural deposits, and (3) bedrock. The fill material is a heterogeneous unit consisting of clay, silt, sand, gravel, and debris in varying proportions. The unconsolidated deposits consist primarily of a thick sequence of silty clays commonly referred to as Younger Bay Mud, which includes discontinuous lenses of coarse material, possibly from periods of shoreline transgression and regression. The bedrock consists of sandstone, siltstone, and shale.

#### **Fill**

Because of extensive land reclamation activities at Mare Island, a highly heterogeneous surficial layer of fill material is prevalent at locations outside of the original outline of the island in 1859 (including an area in the southern portion of IA B.2). The fill material consists primarily of silty clays, with some sands, gravels, and organic debris that is generally indistinguishable from the unconsolidated natural deposits. The primary sources for the fill are dredge material from Mare Island Strait and Mare Island grading activities in the early 1900s. Debris exists in the fill, including concrete, asphalt, brick, metal, timber, paint chips, and fiberglass, but is characterized by abrupt and unpredictable changes in material in short lateral and vertical distances and does not define a waste disposal area. Significant debris noted in several boring logs is likely associated with surface activities and not the fill itself. The fill is typically 1 to 12 feet thick across IA B.2.

#### **Unconsolidated Natural Deposits (Younger Bay Mud)**

Unconsolidated deposits overlie the eroded bedrock surface on much of Mare Island. The composition of unconsolidated materials on the western side of the bedrock ridge differs from the eastern side deposits. As noted above, IA B.2 straddles the bedrock ridge.

On the western side of the bedrock ridge, unconsolidated deposits in IA B.2 consist of silty clays, with discontinuous lenses of coarser material. A relatively extensive lens of sandy silt to sand is apparently present within and adjacent to IR18 at the north end of IA B.2 and south to approximately the Building 559 area. This lens was found at approximately 35 to 40 feet below ground surface (bgs), with a thickness of approximately 3 feet. Sandy sediments that appear to be relatively extensive have also been observed at approximately 50 to 65 feet bgs in IA A3 to the north and in the wetlands to the west of IA B.2. Sand in this interval is assumed to be laterally continuous beneath IA B.2 west of the bedrock on the basis of one boring within the area where sand was encountered at these depths.

East of the bedrock ridge, unconsolidated natural deposits consist primarily of silty clay and clay, with occasional discontinuous lenses of silty sand and sandy clay. Short (less than 2 feet) intervals of peat and/or organic clay have also been noted at various borings. Thickness of the unconsolidated natural deposits varies from as little as 6 inches in the southern portion of IA B.2 to more than 40 feet in the northern portion of IA B.2.

#### **Bedrock**

The bedrock at Mare Island consists of steeply-dipping brown, orange, and tan arkosic sandstone, siltstone, and micaceous shale. Bedrock outcrops exist in the hilly area at the southern end of the peninsula that is now occupied by the golf course, ammunition bunkers, and a residential area along Mesa Avenue. The exposed bedrock at Mare Island is assigned to the undifferentiated Great Valley Sequence on Wagner and Bortungo's regional geologic map (Wagner and Bortungo 1982). A more detailed map prepared by Dibblee (1981) identifies the bedrock as arkosic sandstone and

micaceous shale of the Cretaceous Panoche Formation.

Bedrock occurs near ground surface in the southwestern portion of IA B.2 and is more than 40 feet bgs at some locations in the northern portion of IA B.2. The ridge that forms the spine of Mare Island trends southeast to northwest. This ridge roughly coincides with Azuar Drive southwest of IA B.2 but appears to deviate north of northwest so that it is closer to Railroad Avenue in the central to northern section of IA B.2. The northern extent of the subsurface bedrock ridge is not known, but the ridge is present at least as far north as A Street.

The project site is located within a seismically active area. Seismically, the area is dominated by the San Andreas Fault system, which is composed of a branched network of generally northwest-trending strike-slip faults. Geologic, seismologic, and geodetic evidence indicate that this fault system partially accommodates the relative motion between the North American and Pacific tectonic plates. Published geologic maps indicate that no known or inferred fault traces pass through the site. The nearby active faults are summarized in Table 1 below.

**Table 1—Regional Faults and Seismically**

| <b>Fault</b>             | <b>Approximate Distance (km) and Direction from Site</b> | <b>Maximum Moment Magnitude</b> |
|--------------------------|--|---------------------------------|
| Healdsburg-Rodgers Creek | 5—northwest  | 7.0                             |
| West Napa                | 9—northeast  | 6.5                             |
| Hayward                  | 12—southwest   | 7.1                             |
| Green Valley             | 15—east  | 6.9                             |
| Concord                  | 18—southeast   | 6.0                             |
| Greenville               | 32—southeast   | 6.9                             |
| Calaveras                | 34—south   | 7.1                             |
| San Andreas              | 40—west  | 7.9                             |
| San Gregario             | 41—southwest   | 7.3                             |

These faults have caused severe ground shaking at the site in the geologic past and have the potential to do so in the future.

The U.S. Geological Survey (USGS Fact Sheet 152-99) estimates that the probability of a magnitude 6.7 or greater earthquake occurring on any fault within the Bay Area from 2000 to 2030 to be 70 percent. Similarly, they estimate a 21 percent probability for an earthquake on the San Andreas Fault, 32 percent for the Hayward Fault, and 32 percent for the Rodgers Creek Fault within the next 30 years.

#### *Analysis of Potential Impacts.*

#### Describe to what extent project activities would:

- a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. (Refer to Division of Mines and Geology Special Publication 42)  
  
Project activities have the potential to result in an increased risk of loss, injury, or death in the project area as a result of an earthquake fault rupture. However, risks associated with rupture of a known earthquake fault are minimized through the use of engineering controls. Sidewall sloping and/or shoring will be utilized in soil excavations to minimize the risk of cave-ins, which may occur in excavations greater than 5 feet bgs. The maximum depth of excavation in IA B.2 is expected to be no more than 10 feet. In addition, soil adjacent to structures will be sloped or shored to prevent an adverse impact to building foundations. <sup>(1,2,3)</sup>
  - Strong seismic ground shaking  
  
Nearby faults have caused severe ground shaking at the site in the past and could occur in the future. The potential impacts of this ground shaking include liquefaction of soils and seismic slope deformations. Liquefaction is characterized by the rapid loss of strength of cohesive soils during large earthquake motions. Because the site is predominately underlain by soft cohesive clays, liquefaction is not anticipated at the site. The project activities will not cause strong seismic ground shaking which would expose people or structures to potential substantial adverse effects. <sup>(1,2,3)</sup>
  - Seismic-related ground failure, including liquefaction



The potential impacts of ground shaking and failure include liquefaction of soils. Liquefaction is characterized by the rapid loss of strength of cohesive soils during large earthquake motions. Because the site is predominately underlain by soft cohesive clays, liquefaction is not anticipated at the site. <sup>(1,2,3)</sup>

- Landslides

The project area is relatively flat; therefore, there is no anticipated threat of landslides occurring due to project activities which would expose people or structures to potential substantial adverse effects. <sup>(1,2,3)</sup>

b. Result in substantial soil erosion or the loss of topsoil.

The project area is relatively flat; therefore, there is no anticipated threat of soil erosion. The excavated soil, concrete and asphalt will be backfilled with clean imported fill materials to restore the site to its original state. <sup>(1,2)</sup>

c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in an off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

The project site is relatively flat and is not located on unstable soil. Proposed excavation areas, and areas surrounding proposed excavation areas, are typically paved. Project activities are not expected to result in an off-site landslide, lateral spreading, subsidence, liquefaction or collapse. Excavations will be backfilled with clean imported fill materials and will be restored to existing conditions. <sup>(1)</sup>

d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

The project site is relatively flat and is not located on expansive soil. Therefore, the project will not create substantial risks to life of property. <sup>(1,2,3,4)</sup>

d. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of water.

No septic tanks or other wastewater disposal systems are to be constructed within the project boundaries. Sewers are available for disposal of water in the vicinity of the project area.

f. Result in human exposure to Naturally Occurring Asbestos.

No ultramafic rocks likely to contain naturally occurring asbestos are illustrated on the ARB map entitled, "General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos". Site soils consist of fine-grained sediments including dredged material and Bay Mud Outcrops; the area of the site has been mapped as sandstone, mudstone, shale, and conglomerates. Ultramafic exposures likely to contain naturally occurring asbestos were not identified in the area of the site. For these reasons, the likelihood of exposure of site workers or the surrounding community to Naturally Occurring Asbestos is not considered to be a potential hazard. <sup>(1,2,3,5)</sup>

*References:*

1. CH2M HILL. 2005. *Draft Remedial Action Plan for Investigation Area B.2, Mare Island, Vallejo, California. Prepared for Regulatory Agencies.* May.
2. Dames & Moore. 1988. *Operation and Maintenance Plan, Dredge Spoil Disposal Ponds Operations, Naval Shipyard Mare Island, Vallejo, California.* Prepared for U.S. Navy at Mare Island, California.
3. Geotechnical Consultants, Inc. 1998. *Embankment Stability Analysis, Dredge Spoil Pond Improvements, Mare Island Shipyard, Vallejo, California.* Prepared for Chaudhary Associates, Inc.
4. U.S. Department of Agriculture Soil Conservation Service. 1977. *Soil Survey of Solano County, California.*
5. California Air Resources Board Website: [www.arb.ca.gov/toxics/asbestos/geninfo.htm](http://www.arb.ca.gov/toxics/asbestos/geninfo.htm)

*Findings of Significance:*

- ☐ Potentially Significant Impact  
☐ Potentially Significant Unless Mitigated  
☒ Less Than Significant Impact  
☐ No Impact

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**7. Hazards and Hazardous Materials**

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*Project activities likely to create an impact:*

- Excavation and stockpiling of contaminated soil, wood, concrete, and asphalt using appropriate construction equipment (may include excavator, backhoe, bulldozer, or grader); loading the contaminated media onto dump trucks.
- Characterization of stockpiled soil, wood, concrete, and asphalt to determine if treatment is required prior to disposal.
- Off-site transport and disposal of excavated soil, wood, concrete, and asphalt to appropriate facility based on waste characterization and importation of clean backfill material.
- Site restoration including backfill of all excavated areas.
- Removal of approximately 300 feet of fuel-oil pipeline

*Description of Environmental Setting:*

Contaminated soil, wood, concrete, and asphalt containing lead, PCB, and/or petroleum hydrocarbons will be excavated and managed as a potentially hazardous waste. They will be transported by truck to a permitted landfill for disposal. Prior to loading for transport, the soil is stockpiled and chemically analyzed to determine treatment requirements. Applicable site controls will be implemented. Site activities will be performed consistent with a site specific health and safety plan (HSP).

*Analysis of Potential Impacts.*Describe to what extent project activities would:

- a. Create a significant hazard to the public or the environment throughout the routine transport, use or disposal of hazardous materials.

Excavated soils will be managed as a potentially hazardous waste. Applicable site controls will be implemented, consistent with the site-specific HSP. Excavated soil will be transported by truck to a permitted landfill for disposal. All trucks will be covered and will follow a designated route to limit impacts to residents and businesses. Prior to loading for transport, the soil will be stockpiled and chemically analyzed to determine appropriate treatment requirements if needed. Potential treatment options include solidification/stabilization (for lead and petroleum hydrocarbon contaminated soil) and incineration (for PCB contaminated soil). Stockpiled soil will be covered, and air monitoring will be performed to detect possible off-site impacts. <sup>(1)</sup>

The management of potentially contaminated waste, adherence to site controls and plans, and the short duration of the activities (1 to 2 weeks) ensure that no significant hazard to the public or the environment will result from these activities. <sup>(1)</sup>

- b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

All work will be conducted in accordance with the site-specific HSP and activity hazard analysis developed for the project. The HSP will provide an emergency contingency plan. With the correct implementation of the emergency contingency plan, hazardous releases should be minimized. All trucks are registered hazardous waste hauler licensed by the State of California and are trained to deal with emergencies.

- c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school.

All work will be conducted in accordance with the site-specific HSP and activity hazard analysis developed for the project. The HSP will provide an emergency contingency plan. Hazardous materials will be managed as discussed above to ensure that no significant hazard to schools will result from project activities. <sup>(1)</sup>

- d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to public or the environment.

The proposed project is identified as an active site on DTSC's Cal Sites list compiled pursuant to Government Code Section 65962.5. However, the proposed removal activities are not expected to create a significant hazard to the public or the environment. The proposed activities are intended to reduce hazard. <sup>(1)</sup>

- e. Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.

All work will be conducted in accordance with the site-specific HSP, which will include an emergency response plan.

*References:*

1. CH2M HILL. 2005. *Draft Remedial Action Plan for Investigation Area B.2, Mare Island, Vallejo, California. Prepared for Regulatory Agencies.* May.

*Findings of Significance:*

- ☐ Potentially Significant Impact  
☐ Potentially Significant Unless Mitigated  
☐ Less Than Significant Impact  
☒ No Impact

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**8. Hydrology and Water Quality**

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*Project activities likely to create an impact:*

- Excavation and stockpiling of contaminated soil, wood, concrete, and asphalt using appropriate construction equipment (may include excavator, backhoe, bulldozer, or grader); loading the contaminated media onto dump trucks.
- Off-site transport and disposal of excavated soil, wood, concrete, and asphalt to appropriate facility based on waste characterization and importation of clean backfill.
- Site restoration including backfill of all excavated areas.
- Removal of approximately 300 feet of fuel-oil pipeline.

*Description of Environmental Setting:*

Regionally, surface water surrounding Mare Island is influenced by a variety of rivers, including the Sacramento and San Joaquin rivers that flow into the Carquinez Strait and the Napa River that flows into Mare Island Strait. These waters then mix with the water of San Pablo Bay. With seasonal variability in salinity, flow, and sediment deposition, the aquatic environment surrounding Mare Island is highly dynamic.

Surface water on Mare Island consists of tidal and non-tidal wetlands. Wetlands comprise about 70 percent of Mare Island's approximate 5,600 total acres. Tidal wetlands are areas that are influenced by tidal action and include both northern coastal salt marsh and brackish marsh areas at Mare Island. Mare Island's tidal wetlands are regionally significant, representing approximately 2 percent of the Bay Area's remaining 127 square miles of tidal wetlands. <sup>(1)</sup> Non-tidal wetlands exist adjacent to IA B.2. These wetlands may be seasonally submerged.

Stormwater within IA B.2 infiltrates into the subsurface or is controlled by the stormwater system. In areas of pavement and buildings, rainwater runoff flows to stormwater drains, where it is discharged into Mare Island Strait northeast of IA B.2. In other areas, however, runoff may infiltrate into the subsurface or evaporate.

Groundwater beneath IA B.2 occurs in generally low hydraulic conductivity materials that consist of fill, Younger Bay Mud, and the shallow bedrock at the south end of IA B.2. Depth to groundwater in IA B.2 ranges from 2 to 12 feet bgs. The highest water levels in IA B.2 are encountered in the wet season, roughly between mid-October and mid-April. Tidal influences do not appear to affect groundwater levels in IA B.2. <sup>(2)</sup>

Groundwater beneath IA B.2 flows both to Mare Island Strait and to the wetlands to the west. An interpreted groundwater divide runs generally northwest along the length of IA B.2. This divide is typical of island/peninsula hydrology, with groundwater recharge areas in the interior land surfaces and groundwater discharge areas along the island/peninsula margins. The subsurface bedrock ridge noted above, which trends southeast to northwest and roughly parallel to the shoreline, provides a general indication of the groundwater divide. The location of the groundwater divide varies between approximately Azuar Drive to east of Azuar, towards the center of IA B.2. It is evident that groundwater flow directions are generally either to the north and northeast or to the west, depending on which side of the groundwater divide is being considered.

Groundwater flow in IA B.2 is influenced locally by variations in lithology. Both coarse-grained materials, which would be expected to exhibit higher hydraulic conductivity, and fine-grained materials, which would be expected to exhibit comparatively low hydraulic conductivities and inhibit groundwater flow, exist as a heterogeneous mixture with little lateral continuity. However, backfill in utility corridors, which is often coarse, may provide relatively continuous preferential pathways in the shallow subsurface.

Groundwater in IA B.2 is not suitable for the beneficial use as a supply for municipal or domestic water and is potentially suitable for the beneficial use as industrial supply or agricultural supply. The primary beneficial use for groundwater at IA B.2 is freshwater replenishment to the adjacent wetlands area. <sup>(1, 3, 4, 5)</sup>

#### Analysis of Potential Impacts.

##### Describe to what extent project activities would:

##### a. Violate any water quality standards or waste discharge requirements.

Best Management Practices (BMPs) will be applied to the surface soil removal actions in IA B.2. The BMPs provide measures and controls necessary to mitigate potential pollutant sources. These include the following.

- Elimination/reduction of the movement of silt or sediment from the excavation area into stormwater runoff through the use of silt fences, sandbag berms, hay bales, and grading.
- Management of soil stockpiles built during construction to prevent the movement of silt into stormwater runoff through diversion of drainage from the stockpile areas, placement of sandbags and silt fencing, and sloping of stockpiles to encourage sheet flow.
- Management of solid wastes (asphalt and concrete) from construction activities to prevent contamination of stormwater runoff through the implementation of the *Soil and Groundwater Management Plan* and the use of dumpsters to contain solid waste.
- Management of hazardous wastes and materials to prevent spills and decrease the potential for off-site discharge through stormwater through the use of spill control measures, procedures on hazardous materials storage and vehicle fueling.

BMPs within these four core areas as well as general site BMPs will be implemented and inspected regularly to maintain stormwater quality at the site. If new hazards are introduced to the site, the BMPs will be reviewed and updated. Therefore, no water quality standards or waste discharge requirements will be violated. <sup>(6)</sup>

##### b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficient in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

Groundwater at the site is not used as a source of water supply. In addition, while some groundwater is expected to enter the excavation, limited quantities of groundwater are expected to migrate into the excavation due to the low permeability of the surrounding formation. Also, the excavation should only be open for a short duration prior to backfill to minimize the volume of water that collects in the excavation. Therefore, project activities are not expected to substantially interfere with groundwater recharge for the area. <sup>(6,7)</sup>

- c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off-site.

Following excavation activities, site restoration will be completed, and the site will be returned to existing grade. Therefore, the existing drainage pattern in the area (surface runoff to the storm water system) will not be altered in a manner that would result in substantial erosion. <sup>(6,7)</sup>

- d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off-site.

Please see explanation above. The existing drainage pattern in the area (surface runoff to the storm water system) will not be altered in a manner that would result in flooding on or off-site. <sup>(6,7)</sup>

- e. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.

Restoration of the site will return the area to its original drainage patterns. Therefore, the project will not contribute runoff water which would exceed capacity of the existing storm water drainage system. <sup>(6,7)</sup>

- f. Otherwise substantially degrade water quality.

The project will not substantially degrade water quality for the reasons discussed above. <sup>(6,7)</sup>

- g. Place within a 100-flood hazard area structures that would impede or redirect flood flows.

No structures will be built in conjunction with this project. <sup>(6,7)</sup>

- h. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

No dams or related structures are present within the project boundary. Therefore, there is no anticipated risk of loss, injury, or death involving flooding. <sup>(6,7)</sup>

- i. Inundation by sieche, tsunami or mudflow.

There is no anticipated risk related to inundation by sieche, tsunami, or mudflow. <sup>(6,7)</sup>

#### References:

1. Regional Water Quality Control Board (RWQCB). 1995. *San Francisco Bay Basin (Region 2) Water Quality Control Plan*. June 21.
2. TetraTech EM, Inc. (TtEMI). 2001. *Draft Investigation Area B Remedial Investigation, Mare Island, Vallejo, California. Internal Draft*. Unpublished. March 30.
3. RWQCB. 2004. *RWQCB staff comments on Draft Investigation Area C1RI/FS*. November 22.
4. PRC Environmental Management, Inc. (PRC). 1997b. *Final Technical Memorandum: Assessment of Beneficial Uses of Groundwater, MINS, Vallejo, California*. November 24.
5. CH2M Hill. 2003. *Draft Assessment of the MUN Beneficial Use Designation for the Eastern Early Transfer Parcel Technical Memorandum*. July 1.
6. CH2M HILL. 2001. *Final Soil and Groundwater Management Plan, Mare Island, Vallejo, California*. November.
7. CH2M HILL. 2005. *Draft Remedial Action Plan for Investigation Area B.2, Mare Island, Vallejo, California*.

*Prepared for Regulatory Agencies. May.*

*Findings of Significance:*

- ☐ Potentially Significant Impact  
☐ Potentially Significant Unless Mitigated  
☐ Less Than Significant Impact  
☒ No Impact

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**9. Land Use and Planning**

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*Project activities likely to create an impact:* None

*Description of Environmental Setting:*

Past land use in IA B.2 has been used for transportation equipment repair, public works maintenance, warehouse facilities, military barracks and training facilities, and a variety of community service and recreational facilities. The proposed redevelopment plan for IA B.2 involves mixed uses, including light industrial/commercial areas and residential areas. <sup>(1, 2)</sup> These proposed land uses are similar to past land uses in IA B.2, which included commercial/industrial use, residential use, and parks (i.e., Morton Field). <sup>(3)</sup> No zoning or land use changes are being proposed as a result of project implementation. For these reasons, no further analysis of impacts is deemed necessary.

*Analysis of Potential Impacts.*

Describe to what extent project activities would:

- a. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

None. Please see explanation above.

- b. Conflict with any applicable habitat conservation plan or natural community conservation plan.

None. Please see explanation above.

*Specific References:*

1. Supervisor of Shipbuilding, Conversion, and Repair, Portsmouth, Virginia, Environmental Detachment (SSPORTS). 1996a *Basewide Environmental Baseline Survey, Former Mare Island Naval Shipyard, Supplement for Zone 02*. August 8.
2. SSPORTS. 1996b. *Basewide Environmental Baseline Survey, Former Mare Island Naval Shipyard, Supplement for Zone 03*. May 31.
3. SWA Group. 2000. *Preliminary Land Use Plan*. May 23.

*Findings of Significance:*

- ☐ Potentially Significant Impact  
☐ Potentially Significant Unless Mitigated  
☐ Less Than Significant Impact  
☒ No Impact

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**10. Mineral Resources**

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*Project activities likely to create an impact:* None

*Description of Environmental Setting:*

No known mineral resources exist within the property boundaries. <sup>(1)</sup> No further analysis is necessary

Analysis of Potential Impacts.

Describe to what extent project activities would:

- a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

None. Please see explanation above.

- b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

None. Please see explanation above.

*Specific References:*

1. Lennar Mare Island (LMI). 2000. *Preliminary Land Use Plan*. May 23.

*Findings of Significance:*

- ☐ Potentially Significant Impact  
☐ Potentially Significant Unless Mitigated  
☐ Less Than Significant Impact  
☒ No Impact

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**11. Noise**

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*Project activities likely to create an impact:*

- Excavation and stockpiling of contaminated soil, wood, concrete, and asphalt using appropriate construction equipment (may include excavator, backhoe, bulldozer, or grader); loading the contaminated media onto dump trucks.
- Off-site transport and disposal of excavated soil, wood, concrete, and asphalt to appropriate facility based on waste characterization and importation of clean backfill.
- Site restoration including backfill of all excavated areas.
- Removal of approximately 300 feet of fuel-oil pipeline.

*Description of Environmental Setting:*

In response to the requirements of the federal Noise Control Act, the EPA (1974) has identified indoor and outdoor noise limits to protect public health and welfare (hearing damage, sleep disturbance and communication disruption). Day-night average outdoor sound values of 55 dBA and indoor sound values of 45 dBA are identified as desirable to protect against speech interference and sleep disturbance for residential, educational, and health care areas. Noise level criteria to protect against hearing damage in commercial and industrial areas are identified as 24-hour  $L_{eq}$  values of 70dBA for both indoor and outdoor. <sup>(1)</sup>

The California Department of Health Services (1987) has published guidelines for the noise element of local general plans. The noise element guideline identifies the normally acceptable community noise equivalent level (CNEL) range for low density residential uses as less than 60 dB, while the conditionally acceptable is 50-70 dBA. The normally acceptable range for high-density residential uses is identified as CNEL values below 65 dBA, while the conditionally acceptable range is identified as 60-70 dBA. <sup>(1)</sup>

Typically, noise regulations correspond with zoning ordinances for a locality. This can include not only residential areas but also office, light industrial and heavy use/manufacturing activities. Regardless of classification, noise limits are regulated at the lot-line of the property.

The existing primary noise sources on the west side of Mare Island are engine noises from commercial shipping, vessel traffic, and occasional aircraft over-flights. Wind and wildlife produce ambient noise.

A survey was performed at Mare Island from 17 to 18 May 2001. The purpose of this survey was to quantify existing ambient noise levels in and around the project boundary. The table below presents the results of this survey. Noise levels ranged from 62.4 dBA at the Day Care School to 70.1 dBA at the former Coral Sea Village berm. While these data are valid only for the 24-hour period from 17 May to 18 May, they do provide an idea of the level of noise emissions already occurring at Mare Island.

**Results of 17 May 2001-18 May 2001 Noise Survey  
at Mare Island**

| Location                      | Time Averaged $L_{eq}$<br>(dBA) |
|-------------------------------|---------------------------------|
| Marine Parade Grounds         | 69.1                            |
| Day Care School               | 62.4                            |
| Former Rifle Range            | 62.8                            |
| Former Coral Sea Village Berm | 70.1                            |
| Former Farragut Village Berm  | 63.1                            |
| Pier 35                       | 63.4                            |

*Analysis of Potential Impacts:*

Describe to what extent project activities would:

- a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

Hearing protection will be used, consistent with the site-specific HSP, to ensure that appropriate noise criteria are attained for construction workers working at the project site. For residents and other receptors located off the project site, the overall noise ( $L_{eq}$ ) emitted from construction activities within the project boundary is expected to be within conditionally acceptable CNEL range, and within the range of ambient noise levels determined in the 2001 noise level survey at Mare Island (62.4 to 70.1 dBA). <sup>(2, 3, 4)</sup>

- b. Exposure of persons to or generation of excessive groundbourne vibration or groundbourne noise levels.

Some equipment, such as jackhammers, may contribute to groundbourne vibration or noise levels. Workers will wear appropriate hearing protection and engineering controls will be used to reduce noise levels. <sup>(2,3,4,5)</sup>

- c. A substantial permanent increase in ambient noise levels in the vicinity above levels existing without the project.

The project will last approximately one to two weeks. Therefore, no permanent increase in ambient noise levels is expected. <sup>(5)</sup>

- d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.



As mentioned in section a, noise levels outside the project boundaries are expected to be within the range of ambient noise levels determined during the 2001 noise survey at Mare Island. Workers at the project site will be required to wear appropriate hearing protection to reduce noise levels. <sup>(2,3,4, 5)</sup>

*References:*

1. Naval Facilities Engineering Command, Western Division and the City of Vallejo (WESTDIV and City of Vallejo). 1998. Mare Island Naval Shipyard Disposal and Reuse Final Environmental Impact Statement/Environmental Impact Report. April.
2. City of Vallejo, 1994. *General Plan*.
3. U.S. Environmental Protection Agency. 1971. *Noise from Construction Equipment and Operations, Building Equipment and Appliances*.
4. U.S. Environmental Protection Agency, Office of Noise Abatement and Control. 1980. *Construction Noise Control Technology Initiatives*
5. CH2M HILL. 2005. *Draft Remedial Action Plan for Investigation Area B.2, Mare Island, Vallejo, California. Prepared for Regulatory Agencies*. May.

*Findings of Significance:*

- ☐ Potentially Significant Impact  
☐ Potentially Significant Unless Mitigated  
☐ Less Than Significant Impact  
☒ No Impact

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**12. Population and Housing**

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*Project activities likely to create an impact:* None

*Description of Environmental Setting:*

The proposed redevelopment plan for IA B.2 involves mixed uses, including light industrial/commercial areas and residential areas. <sup>(1,2)</sup> These proposed land uses are similar to past land uses in IA B.2, which included commercial/industrial use, residential use, and parks (i.e., Morton Field). <sup>(3)</sup> No zoning or land use changes are being proposed as a result of project implementation. Project activities will not induce growth in the site area, nor will they necessitate any construction of replacement housing. For these reasons, no further analysis of impacts is deemed necessary. <sup>(1)</sup>

Analysis of Potential Impacts.

Describe to what extent project activities would:

- a. Induce substantial population growth in area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
- None. Please see explanation above.
- b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.
- None. Please see explanation above.

- c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

None. Please see explanation above.

*Specific References:*

1. Supervisor of Shipbuilding, Conversion, and Repair, Portsmouth, Virginia, Environmental Detachment (SSPORTS). 1996a *Basewide Environmental Baseline Survey, Former Mare Island Naval Shipyard, Supplement for Zone 02*. August 8.
2. SSPORTS. 1996b. *Basewide Environmental Baseline Survey, Former Mare Island Naval Shipyard, Supplement for Zone 03*. May 31.
3. SWA Group. 2000. *Preliminary Land Use Plan*. May 23.
4. CH2M HILL. 2005. *Draft Remedial Action Plan for Investigation Area B.2, Mare Island, Vallejo, California. Prepared for Regulatory Agencies*. May.

*Findings of Significance:*

- ☐ Potentially Significant Impact  
☐ Potentially Significant Unless Mitigated  
☐ Less Than Significant Impact  
☒ No Impact

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**13. Public Services**

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*Project activities likely to create an impact:* None

*Description of Environmental Setting:*

The Vallejo Police Department (VPD), the Solano County Sheriff's Department and the California Highway Patrol service the City of Vallejo. However, the VPD has the primary responsibility for law enforcement on Mare Island. The VPD does not maintain an office or substation on Mare Island. The VPD conducts routine patrols of Mare Island on a daily basis.

The Vallejo Fire Department (VFD) provides fire protection for Mare Island and the City of Vallejo. Station No. 8, located at Mare Island on Nimitz Avenue, is staffed 24 hours a day and operated by Engine Company #8.

At least one Emergency Medical Technician (EMT) is located at Station No. 8. Kaiser Medical Center, Sutter-Solano Medical Center and First Hospital in Vallejo provide medical services for community residents. Kaiser and Sutter-Solano Hospitals operate full-service 24-hour emergency rooms. There is no ambulance service provided by the Fire Department on Mare Island or the City of Vallejo. Ambulance service is typically provided by private ambulance services.<sup>(1,2)</sup>

*Analysis of Potential Impacts:*

Describe to what extent project activities would:

- a. Result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:
- Fire protection  
None
  - Police protection  
None
  - Schools  
None

- Parks  
None
- Other public facilities  
None

**References:**

1. Lennar Mare Island (LMI). 2000. *Preliminary Land Use Plan*. May 23.
2. CH2M HILL. 2005. *Draft Remedial Action Plan for Investigation Area B.2, Mare Island, Vallejo, California. Prepared for Regulatory Agencies*. May.

**Findings of Significance:**

- ☐ Potentially Significant Impact  
☐ Potentially Significant Unless Mitigated  
☐ Less Than Significant Impact  
☒ No Impact

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**14. Recreation**

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*Project activities likely to create an impact:* None

*Description of Environmental Setting:* The project does not entail activities associated with recreation or movement of populations towards recreational facilities. No zoning or land use changes are being proposed as a result of project implementation. For these reasons, no further analysis of impacts is deemed necessary.

Analysis of Potential Impacts.

Describe to what extent project activities would:

- a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.  
None. Please see explanation above.
- b. Include recreational facilities or require construction or expansion of recreational facilities which might have an adverse physical effect on the environment.  
None. Please see explanation above.

**Specific References:**

1. SWA Group. 2000. *Preliminary Land Use Plan*. May 23.
2. CH2M HILL. 2005. *Draft Remedial Action Plan for Investigation Area B.2, Mare Island, Vallejo, California. Prepared for Regulatory Agencies*. May.

**Findings of Significance:**

- ☐ Potentially Significant Impact  
☐ Potentially Significant Unless Mitigated  
☐ Less Than Significant Impact  
☒ No Impact

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**15. Transportation and Traffic**

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*Project activities likely to create an impact:*

- Excavation and stockpiling of contaminated soil, wood, concrete, and asphalt using appropriate construction equipment (may include excavator, backhoe, bulldozer, or grader); loading the contaminated media onto dump trucks.
- Off-site transport and disposal of excavated soil, wood, concrete, and asphalt to appropriate facility based on waste characterization and importation of clean backfill.
- Site restoration including backfill of all excavated areas.
- Removal of approximately 300 feet of fuel-oil pipeline.

*Description of Environmental Setting:*

The streets within Mare Island are fairly light in traffic. During the project work, Mare Island will host a variety of traffic consisting of trucks delivering equipment and materials, personnel and support vehicles, and trucks transporting materials on and off Mare Island. The project activities will include traffic at various times and locations and will be assessed on a daily basis since the exact times and locations of the traffic cannot be defined prior to the start of fieldwork. California Department of Transportation-licensed transporters will provide trucking to transport the soil off-site. The project will involve stockpiling and transporting the excavated soil, wood, asphalt, and concrete. In addition, 300 feet of fuel-oil pipeline will be removed and disposed of at an appropriate disposal facility.

*Analysis of Potential Impacts.*Describe to what extent project activities would:

- a. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections).

Construction activities would last for a short duration of 1 to 2 weeks. To minimize the impact on the normal traffic flow, soil will be brought off and on-site at a rate no greater than 40 trucks per day. In addition, traffic controls during excavation, transportation of soil/sediment on and off Mare Island, backfilling, and grading activities will be used to provide for the efficient completion of the work activities in a safe working environment. All traffic control activities shall conform to the applicable specifications of the *Manual of Traffic Controls for Construction and Maintenance Work Zones*.<sup>(1)</sup>

- b. Exceed, either individually or cumulatively, a level of service standard established by the country congestion management agency for designated roads or highway.

The project site is not subject to a level of service standard as it does not fall under the jurisdiction of a county congestion management agency.

- c. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

No materials or equipment will be stored where it will interfere with the free and safe passage of facility personnel and tenants. At the end of each day's work and at other times when construction operations are suspended for any reason, all equipment and other obstructions will be removed from the roadway for use by facility and tenant traffic. If the construction operations create potential hazardous conditions to traffic or tenants, fences, signs, and other devices will be used to prevent accidents or injury to facility personnel. All equipment will be used for its intended purpose and will not be used for incompatible purposes.

- d. Result in inadequate emergency access.

While working within the project boundaries, care will be taken to ensure emergency access from the area.

- e. Result in inadequate parking capacity.

The project area is located around mostly vacant buildings. There should be adequate open spaces for all necessary equipment and trucks. Therefore, activities are not expected to impact available parking.<sup>(2)</sup>

- f. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

No policies, plans, or programs supporting alternative transportation currently exist at this closed facility.

*References:*

1. Caltrans 1996. *Manual of Traffic Controls for Construction and Maintenance Work Zones*.
2. CH2M HILL. 2005. *Draft Remedial Action Plan for Investigation Area B.2, Mare Island, Vallejo, California. Prepared for Regulatory Agencies*. May.

*Findings of Significance:*

- ☐ Potentially Significant Impact  
☐ Potentially Significant Unless Mitigated  
☐ Less Than Significant Impact  
☒ No Impact

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**16. Utilities and Service Systems**

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*Project activities likely to create an impact:*

- Excavation and stockpiling of contaminated soil, wood, concrete, and asphalt using appropriate construction equipment (may include excavator, backhoe, bulldozer, or grader); loading the contaminated media onto dump trucks.
- Off-site transport and disposal of excavated soil, wood, concrete, and asphalt to appropriate facility based on waste characterization and importation of clean backfill.
- Removal of approximately 300 feet of fuel-oil pipeline.

*Description of Environmental Setting:*

*Analysis of Potential Impacts.*

Describe to what extent project activities would:

- a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

Groundwater that enters the excavation trench through lateral migration in the aquifer will be removed from the void as it seeps into the trench. Limited quantities of groundwater are expected to enter the excavation due to the low permeability of the surrounding formation. All liquid waste generated will be managed in accordance with the *Soil and Groundwater Management Plan*, and will not exceed wastewater treatment requirements of the RWQCB.<sup>(1,2)</sup>

- b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

The project activities will not require the construction of new facilities.

- c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

The project activities will not require the construction of new facilities because the project does not involve discharges to the storm drains.<sup>(1)</sup>

- d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.

Water is necessary to rinse off equipment for the project activities. Existing water supply brought in through the City of Vallejo would be used, thus service or a new supply is not necessary. <sup>(1)</sup>

- e. Result in determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the projects projected demand in addition to the providers existing commitments.

Any wastewater generated associated with the project will either be treated and disposed of to the sanitary sewer or disposed at an approved off-site facility. Adequate capacity exists to accommodate project activities.

- f. Be served by a landfill with sufficient permitted capacity to accommodate the projects solid waste disposal needs.

Waste associated with project activities will be disposed of in a licensed off-site facility with sufficient permitted capacity to accept the solid waste generated from project activities. <sup>(1)</sup>

- g. Comply with federal, state, and local statutes and regulations related to solid waste.

All project activities including disposal of waste will comply with all federal, state, and local statutes and regulations. <sup>(1,2)</sup>

*Specific References:*

1. CH2M HILL. 2005. *Draft Remedial Action Plan for Investigation Area B.2, Mare Island, Vallejo, California. Prepared for Regulatory Agencies.* May.
2. CH2M HILL. 2001. *Final Soil and Groundwater Management Plan, Mare Island,* November

*Findings of Significance:*

- ☐ Potentially Significant Impact  
☐ Potentially Significant Unless Mitigated  
☐ Less Than Significant Impact  
☒ No Impact

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**17. Mandatory Findings of Significance**

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Analysis of Potential Impacts. Describe to what extent project activities would:

- a. Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory.

The project will have a positive impact on the environment by eliminating potential exposure to contaminated soil, asphalt, and concrete. The project area to be temporarily disturbed by the remediation activities will not impact the adjacent uplands habitat or the non-tidal wetlands. There are no identified endangered species in the project area. Based on the evaluation within Environmental Resource Sections 4 and 5 of the Environmental Impact Analysis, there would be no impact or potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal. A few historical archaeological sites considered to be contributing elements of the NRHP District – located in IA B.2. Therefore, project activities will conform to requirements of Architectural and Historic Preservation Act and Archaeological Resources Protection Act and should not have adverse effects to these sites. <sup>(1)</sup>

- a. Have impacts that are individually limited but cumulatively considerable.

Project activities have the potential to result in an increased risk of loss, injury, or death in the project area as a result of an earthquake fault rupture. However, the risk of adverse effects to humans is minimized through the use of engineering controls (shoring and sloping of excavation sidewalls). The cumulative impact from project activities is not considerable. <sup>(1)</sup>

b. Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly.

When considering this Initial Study and the administrative record, there is no evidence before DTSC that the proposed project will have a significant adverse effects on human beings, either directly or in-directly. <sup>(1)</sup>

*Specific References:*

1. CH2M HILL. 2005. *Draft Remedial Action Plan for Investigation Area B.2, Mare Island, Vallejo, California. Prepared for Regulatory Agencies.* May.

*Findings of Significance:*

- ☐ Potentially Significant Impact  
☐ Potentially Significant Unless Mitigated  
☐ Less Than Significant Impact  
☒ No Impact

V. FINDING OF DE MINIMIS IMPACT TO FISH, WILDLIFE AND HABITAT (Optional)

Prepared only if a Finding of De Minimis Impact to fish, wildlife and habitat is proposed in lieu of payment of the Department of Fish and Game Notice of Determination filing fee required pursuant to section 711.4 of the Fish and Game Code.

Instructions

A finding of “no potential adverse effect” must be made to satisfy the requirements for the Finding of De Minimis Impact as required by title 14, California Code of Regulations, section 753.5. “No potential adverse effect” is a higher standard than “no significant impact” and the information requested to provide substantial evidence in support of a “no potential adverse effect” is not identical in either its standard or content to that in other parts of the Initial Study.

In the *Explanation and Supporting Evidence* section below, provide substantial evidence as to how the project will have **no potential adverse effect** on the following resources:

- a) Riparian land, rivers, streams, watercourse, and wetlands under state and federal jurisdiction.
- b) Native and non-native plant life and the soil required to sustain habitat for fish and wildlife.
- c) Rare and unique plant life and ecological community's dependent on plant life.
- d) Listed threatened and endangered plant and animals and the habitat in which they are believed to reside.
- e) All species of plant or animals as listed as protected or identified for special management in the Fish and Game Code, the Public Resources Code, the Water Code, or regulation adopted there under.
- f) All marine and terrestrial species subject to the jurisdiction of the Department of Fish and Game and the ecological communities in which they reside.
- g) All air and water resources the degradation of which will individually or cumulatively result in a loss of biological diversity among the plants and animals residing in that air and water.

Explanation and Supporting Evidence

(Note: Relevant portions of the Initial Study may be referenced where appropriate)

Finding

Based on the explanation and supporting evidence provided above, DTSC finds that the project will have no potential for adverse effect, either individually or cumulatively on fish and wildlife, or the habitat on which it depends, as defined by section 711.2 of the Fish and Game Code.

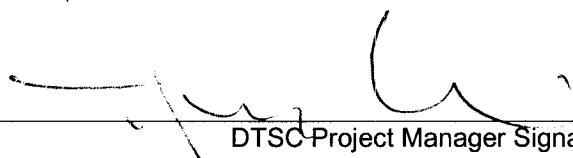
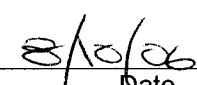
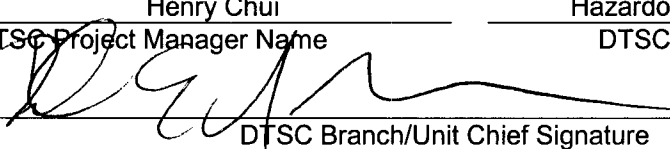
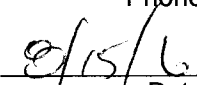
VI. DETERMINATION OF APPROPRIATE ENVIRONMENTAL DOCUMENT

On the basis of this Initial Study:

☒ I find that the proposed project COULD NOT have a significant effect on the environment. A NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED DECLARATION will be prepared.

☐ I find that the proposed project MAY HAVE a significant effect on the environment. An ENVIRONMENTAL IMPACT REPORT will be prepared.

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|---|-------------------------------------|---|
|   |                                     |    |
| DTSC Project Manager Signature  |                                     | Date  |
| Henry Chui  | Hazardous Substances Engineer       | ( 510 ) 540-3759  |
| DTSC Project Manager Name   | DTSC Project Manager Title          | Phone #   |
|  |                                     |  |
| DTSC Branch/Unit Chief Signature  |                                     | Date  |
| Daniel E. Murphy  | Senior Hazardous Substance Engineer | ( 510 ) 540-3772  |
| DTSC Branch/Unit Chief Name   | DTSC Branch/Unit Chief Title        | Phone #   |



**ATTACHMENT A**  
**INITIAL STUDY REFERENCE LIST**

For

**IA B.2 Remedial Action Plan**

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## Attachment B

Table 1: Ambient Air Quality Standards &amp; Bay Area Attainment Status

| Pollutant                         | Averaging Time            | California Standards <sup>2</sup>    |                          | National Standards <sup>3</sup>       |                   |
|-----------------------------------|---------------------------|--------------------------------------|--------------------------|---------------------------------------|-------------------|
|                                   |                           | Concentration                        | Attainment Status        | Concentration <sup>4</sup>            | Attainment Status |
| Ozone                             | 8 Hour                    |                                      |                          | 0.08 ppm                              | U                 |
|                                   | 1 Hour                    | 0.09 ppm<br>(180 µg/m <sup>3</sup> ) | N                        | 0.12 ppm<br>(235 µg/m <sup>3</sup> )  | N <sup>5</sup>    |
| Carbon Monoxide                   | 8 Hour                    | 9.0 ppm<br>(10 mg/m <sup>3</sup> )   | A                        | 9 ppm<br>(10 mg/m <sup>3</sup> )      | A <sup>6</sup>    |
|                                   | 1 Hour                    | 20 ppm<br>(23 mg/m <sup>3</sup> )    | A                        | 35 ppm<br>(40 mg/m <sup>3</sup> )     | A                 |
| Nitrogen Dioxide                  | Annual Average            |                                      |                          | 0.053 ppm<br>(100 µg/m <sup>3</sup> ) | A                 |
|                                   | 1 Hour                    | 0.25 ppm<br>(470 µg/m <sup>3</sup> ) | A                        |                                       |                   |
| Sulfur Dioxide                    | Annual Average            |                                      |                          | 80 µg/m <sup>3</sup><br>(0.03 ppm)    | A                 |
|                                   | 24 Hour                   | 0.04 ppm<br>(105 µg/m <sup>3</sup> ) | A                        | 365 µg/m <sup>3</sup><br>(0.14 ppm)   | A                 |
|                                   | 1 Hour                    | 0.25 ppm<br>(655 µg/m <sup>3</sup> ) | A                        |                                       |                   |
| Particulate Matter (PM10)         | Annual Arithmetic Mean    |                                      |                          | 50 µg/m <sup>3</sup>                  | A                 |
|                                   | Annual Geometric Mean     | 30 µg/m <sup>3</sup>                 | N                        |                                       |                   |
|                                   | 24 Hour                   | 50 µg/m <sup>3</sup>                 | N                        | 150 µg/m <sup>3</sup>                 | U                 |
| Particulate Matter - Fine (PM2.5) | Annual Arithmetic Mean    |                                      |                          | 15 µg/m <sup>3</sup>                  | U                 |
|                                   | 24 Hour                   |                                      |                          | 65 µg/m <sup>3</sup>                  | U                 |
| Sulfates                          | 24 Hour                   | 25 µg/m <sup>3</sup>                 | A                        |                                       |                   |
| Lead                              | Calendar Quarter          |                                      |                          | 1.5 µg/m <sup>3</sup>                 | A                 |
|                                   | 30 Day Average            | 1.5 µg/m <sup>3</sup>                | A                        |                                       |                   |
| Hydrogen Sulfide                  | 1 Hour                    | 0.03 ppm<br>(42 µg/m <sup>3</sup> )  | U                        |                                       |                   |
| Vinyl Chloride (chloroethene)     | 24 Hour                   | 0.010 ppm<br>(26 µg/m <sup>3</sup> ) | No information available |                                       |                   |
| Visibility Reducing particles     | 8 Hour (1000 to 1800 PST) | (See note 7)                         | U                        |                                       |                   |

A=Attainment N=Nonattainment U=Unclassified

ppm=parts per million

mg/m<sup>3</sup>=milligrams per cubic meterµg/m<sup>3</sup>=micrograms per cubic meter

1. Information on designations and standards may be found in "Proposed Amendments to the Designation Criteria and to the Area Designations for State Ambient Air Quality Standards, Proposed Amendments to the San Joaquin Valley and Southeast Desert Air Basin Boundaries, and Maps of Area Designations for the State and National Air Quality Standards," California Air Resources Board Staff Report, 16 November 1995.
2. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, suspended particulate matter - PM<sub>10</sub>, and visibility reducing particles are values that are not to be exceeded. The standards for sulfates, Lake Tahoe carbon monoxide, lead, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded. If the standard is for a 1-hour, 8-hour or 24-hour average (i.e., all standards except for lead and the PM<sub>10</sub> annual standard), then some measurements may be excluded. In particular, measurements are excluded that ARB determines would occur less than once per year on the average. The Lake Tahoe CO standard is 6.0 ppm, a level one-half the national standard and two-thirds the state standard.
3. National standards other than for ozone and particulates, and those based on annual averages are not to be exceeded more than once a year. The 1-hour ozone standard is attained if, during the most recent three-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than one. There are some exceptions--the 8-hour national ozone standard is concentration-based rather than exceedance-based. The 8-hour standard is attained when the 3-year average of the 4th highest daily concentrations are 0.08 ppm or less. The 24-hour PM<sub>10</sub> standard is attained when the 3-year average of the 99<sup>th</sup> percentile of monitored concentrations is less than 150 µg/m<sup>3</sup>. The 24-hour PM<sub>2.5</sub> standard is attained when the 3-year average of 98th percentiles is less than 65 µg/m<sup>3</sup>. Except for the national particulate standards, annual standards are met if the annual average falls below the standard at every site. The national annual particulate standard for PM<sub>10</sub> is met if the 3-year average falls below the standard at every site. The annual PM<sub>2.5</sub> standard is met if the 3-year average of annual averages spatially averaged across officially designed clusters of sites falls below the standard.
4. National air quality standards are set at levels determined to be protective of public health with an adequate margin of safety. Each state must attain these standards no later than three years after that state's implementation plan is approved by the Environmental Protection Agency.
5. In August 1998, the Bay Area was re-designated to nonattainment-unclassified for the national 1-hour ozone standard.
6. In April 1998, the Bay Area was re-designated to attainment for the national 8-hour carbon monoxide standard.
7. Statewide VRP Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

